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Levi et al.

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(54) **MOBILITY ASSISTANCE DEVICE**

(71) Applicants: **ATTI International Services Company, Inc.**, Hauppauge, NY (US); **Eli Levi**, Dix Hills, NY (US)

(72) Inventors: **Eli Levi**, Dix Hills, NY (US); **Richard Engel**, Ridge, NY (US); **Thomas Leddy**, Eastport, NY (US)

(73) Assignee: **ATTI International Services Company, Inc.**, Hauppauge, NY (US)

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A61H 3/04 (2006.01)

(52) **U.S. Cl.**
CPC ***A61H 3/04*** (2013.01); *A61H 2003/046* (2013.01)

(58) **Field of Classification Search**
CPC A61H 3/008; A61H 3/04; A61H 2003/007
See application file for complete search history.

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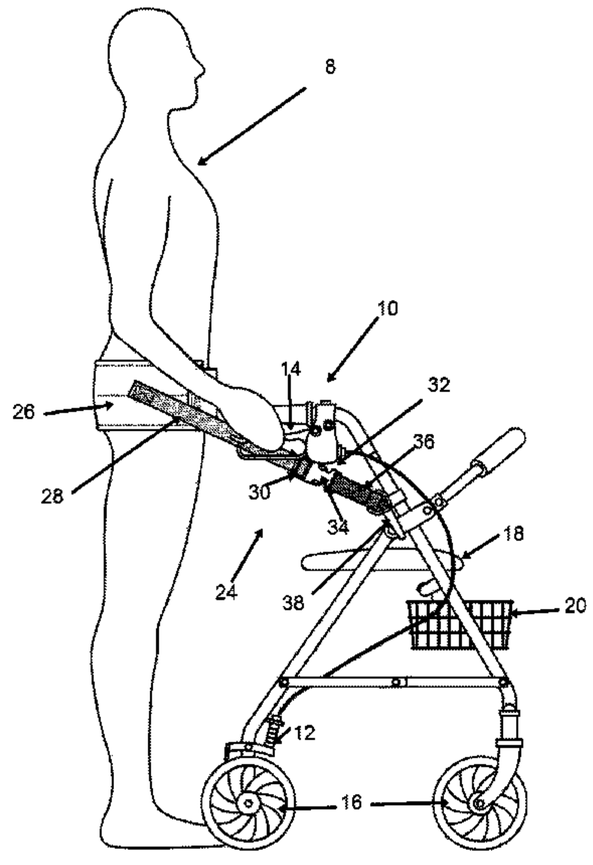
Primary Examiner — Erez Gurari
(74) *Attorney, Agent, or Firm* — Brian Roffe

(57) **ABSTRACT**

Wheeled walker with an integrated safety system includes a frame, wheels on the frame to enable the frame to be manually moved along a surface, and a belt/tether apparatus including a belt adapted to be attached to a person using the walker and at least one tether connected at a first end region to the frame and at a second end region to the belt. The tether may include an elastic portion that provides a proportional tension as distance beyond a slack distance of the elastic portion increases. This limits separation of the walker from the person attached to the belt.

25 Claims, 7 Drawing Sheets



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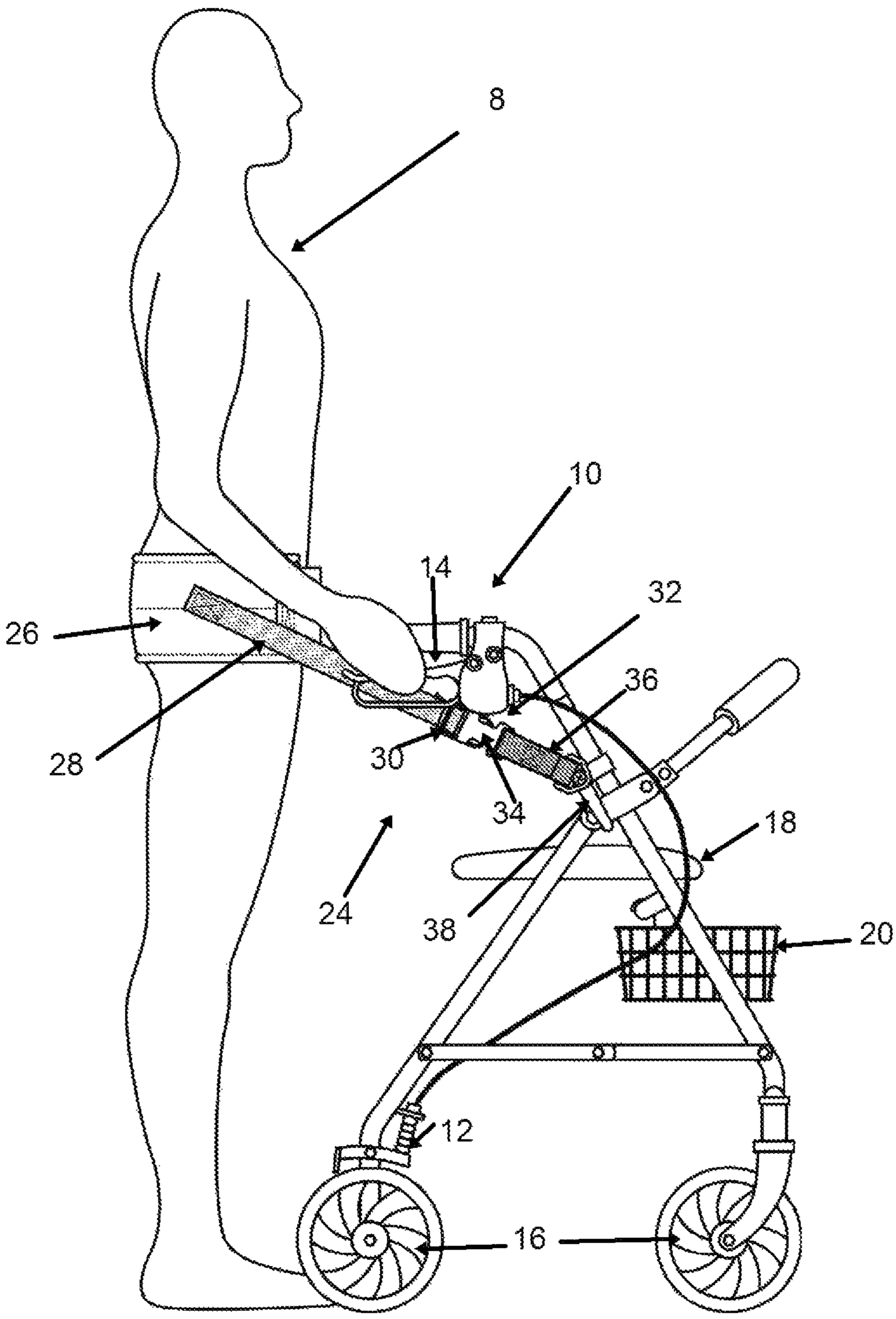


FIG. 1

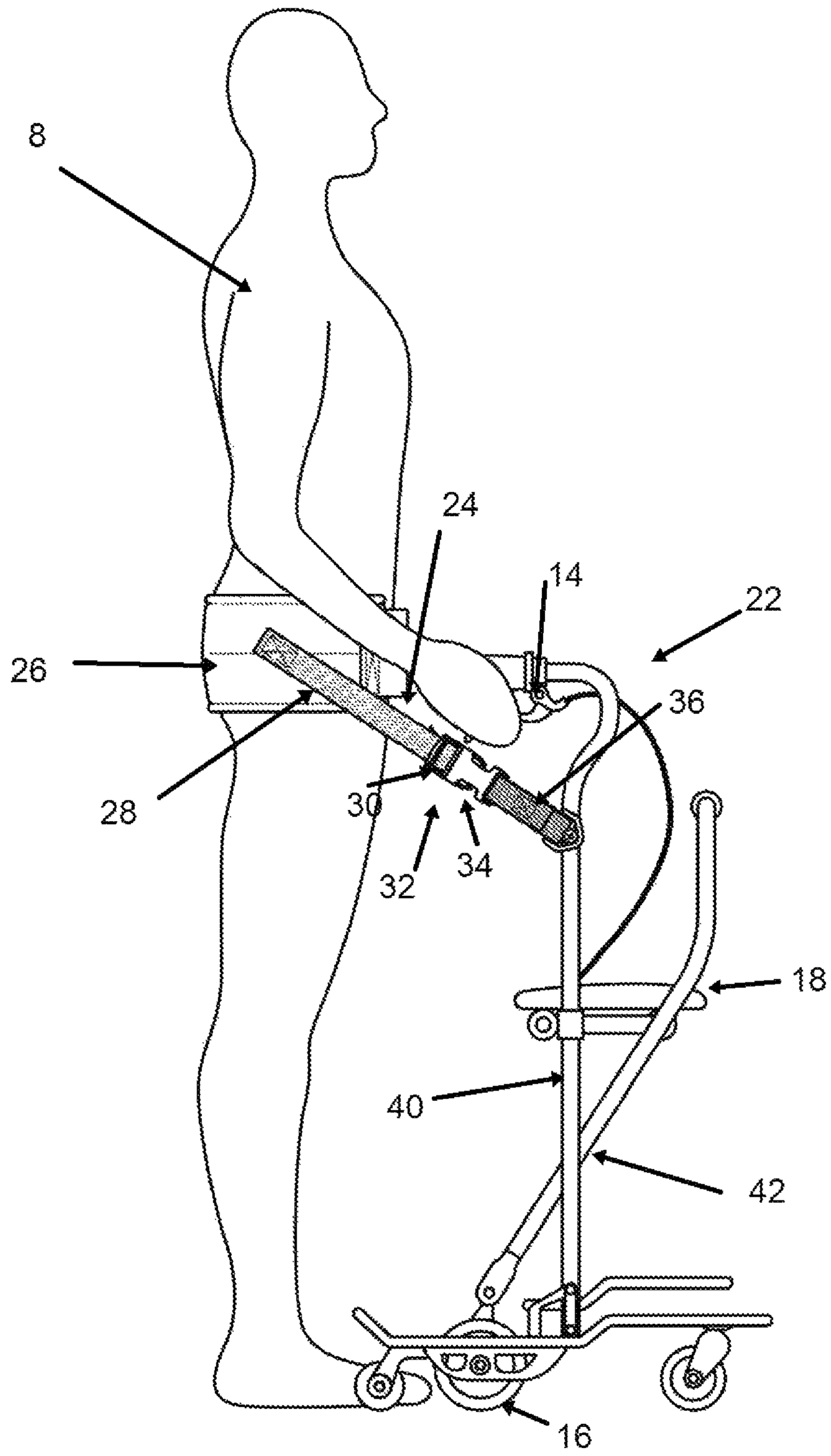


FIG. 2

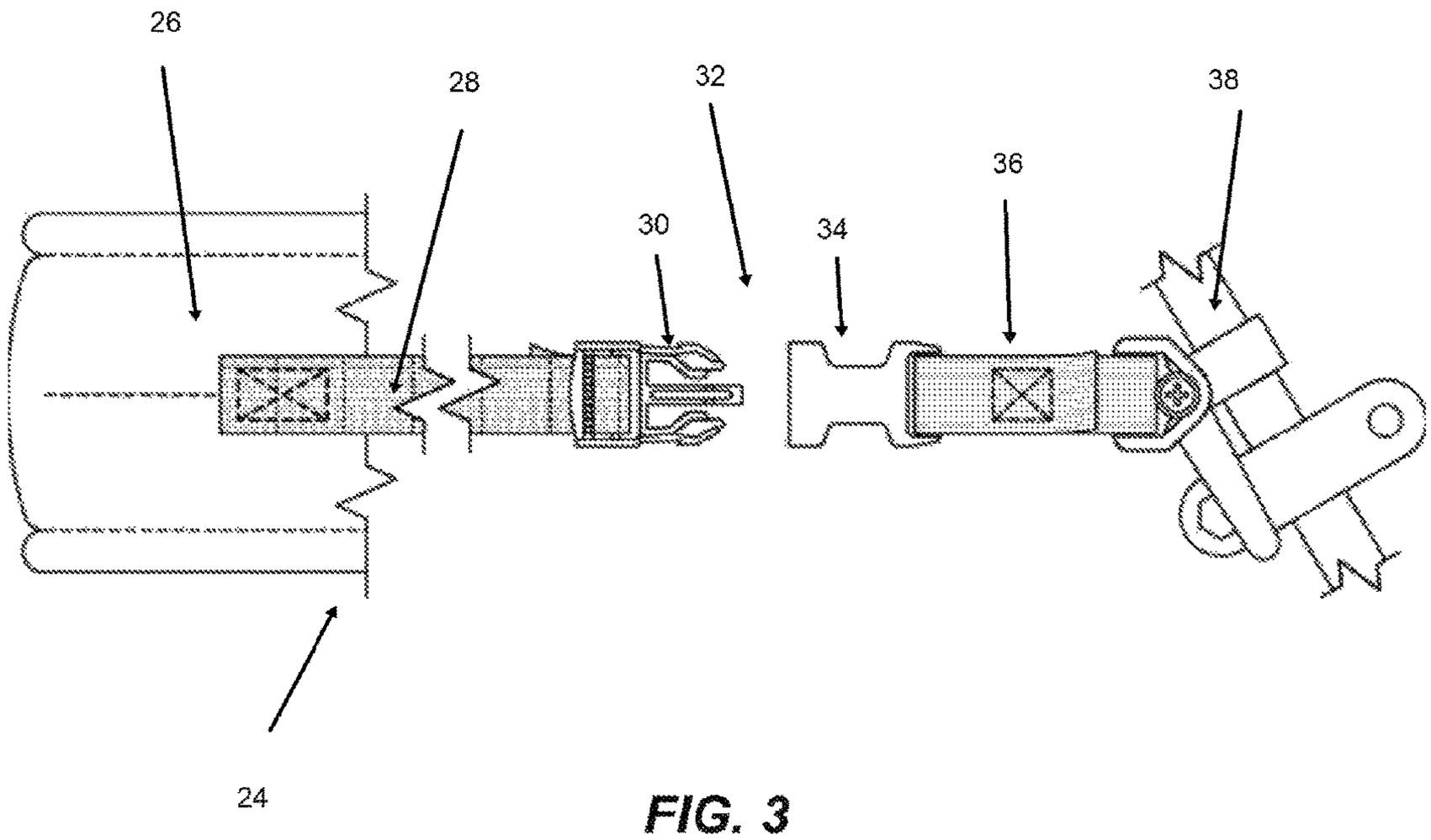


FIG. 3

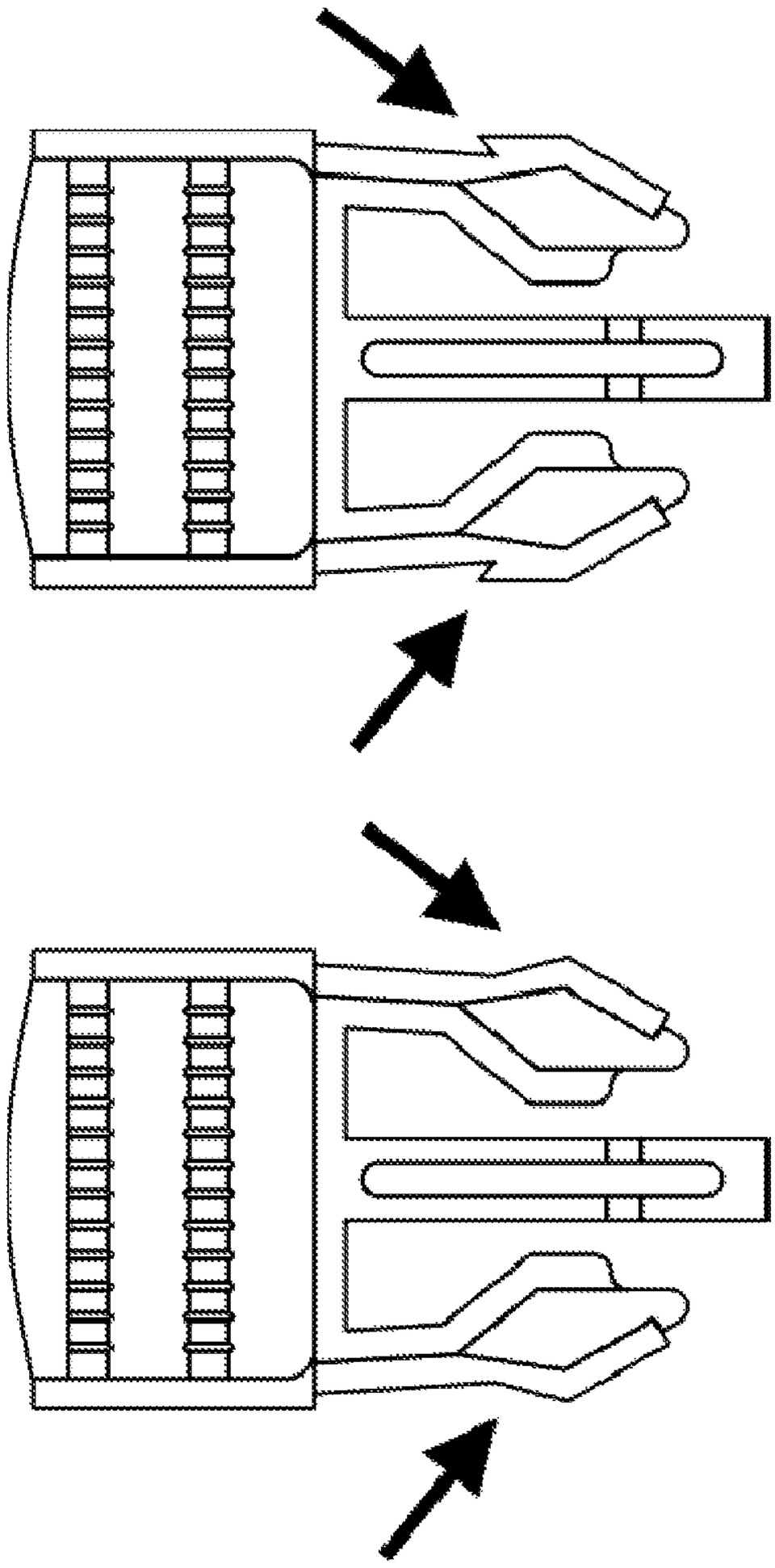

Standard Side
Release Buckle
Break-Away Side
Release Buckle
Item 32

FIG. 3b

FIG. 3a

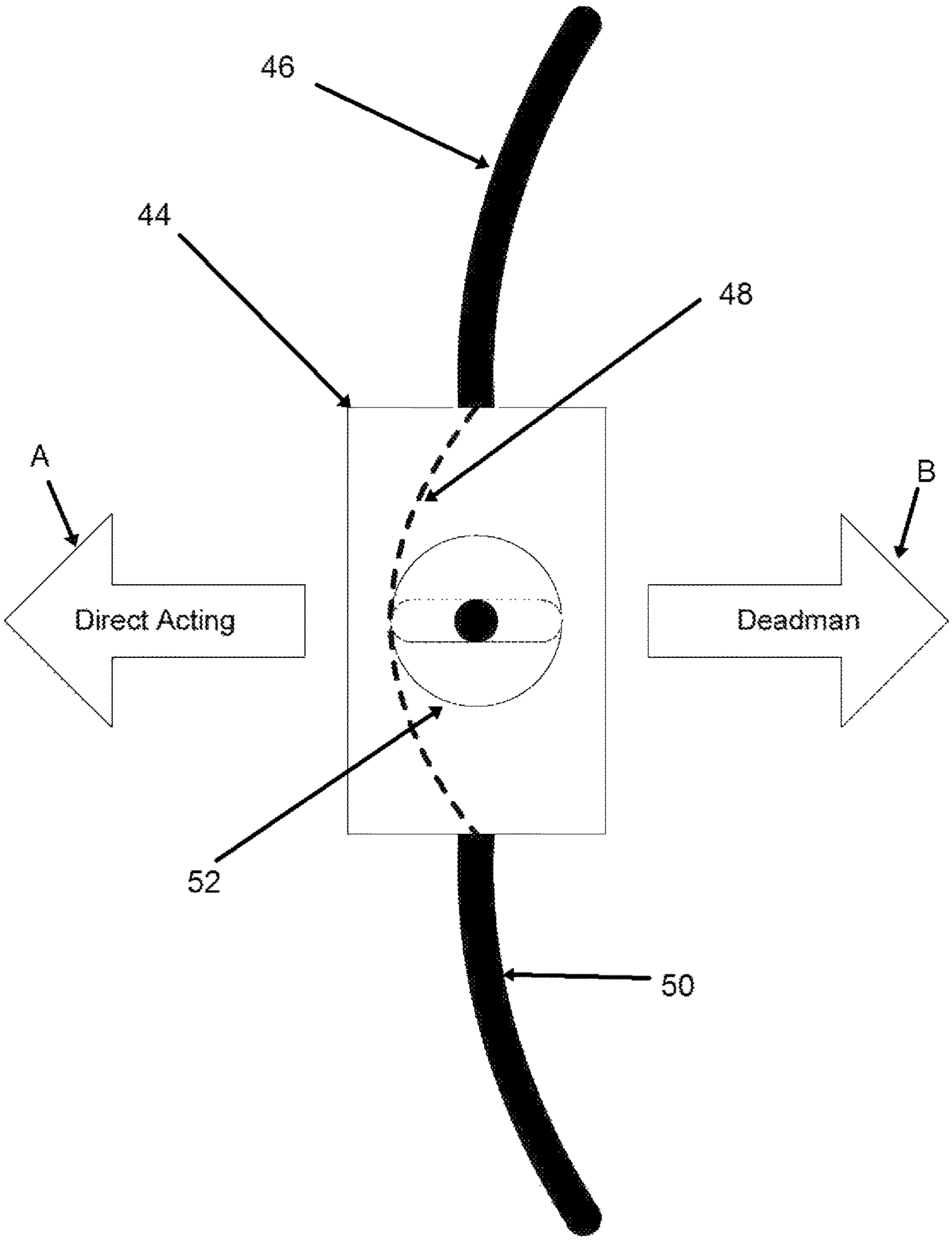
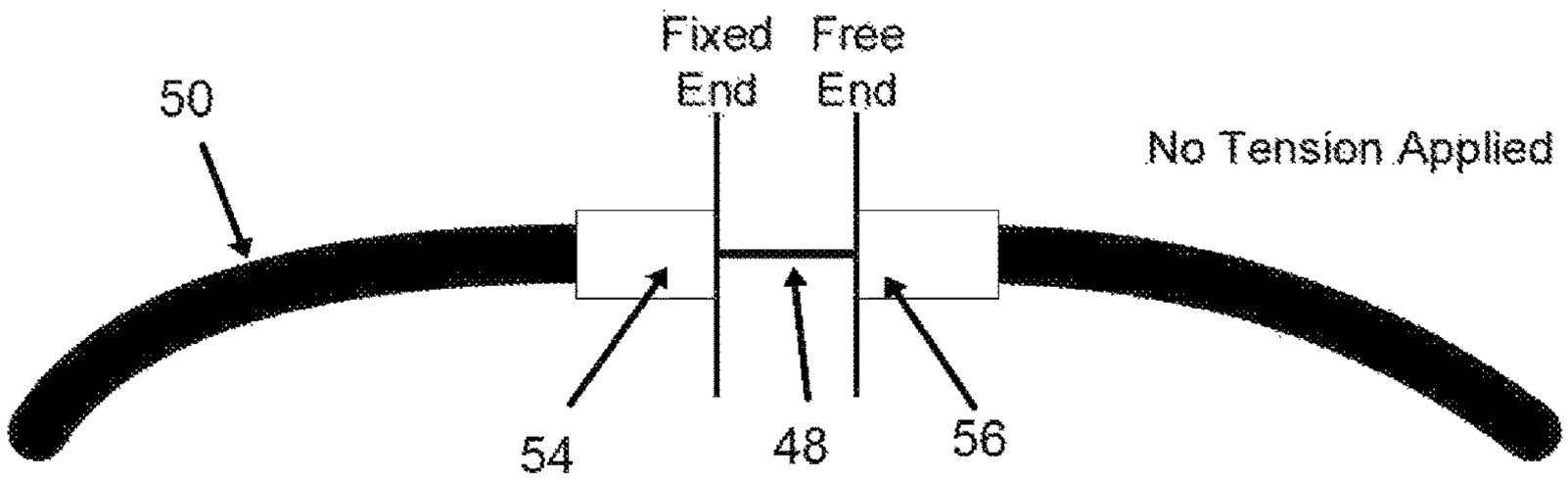


FIG. 4


50
Fixed End
Free End
No Tension Applied
54
48
56

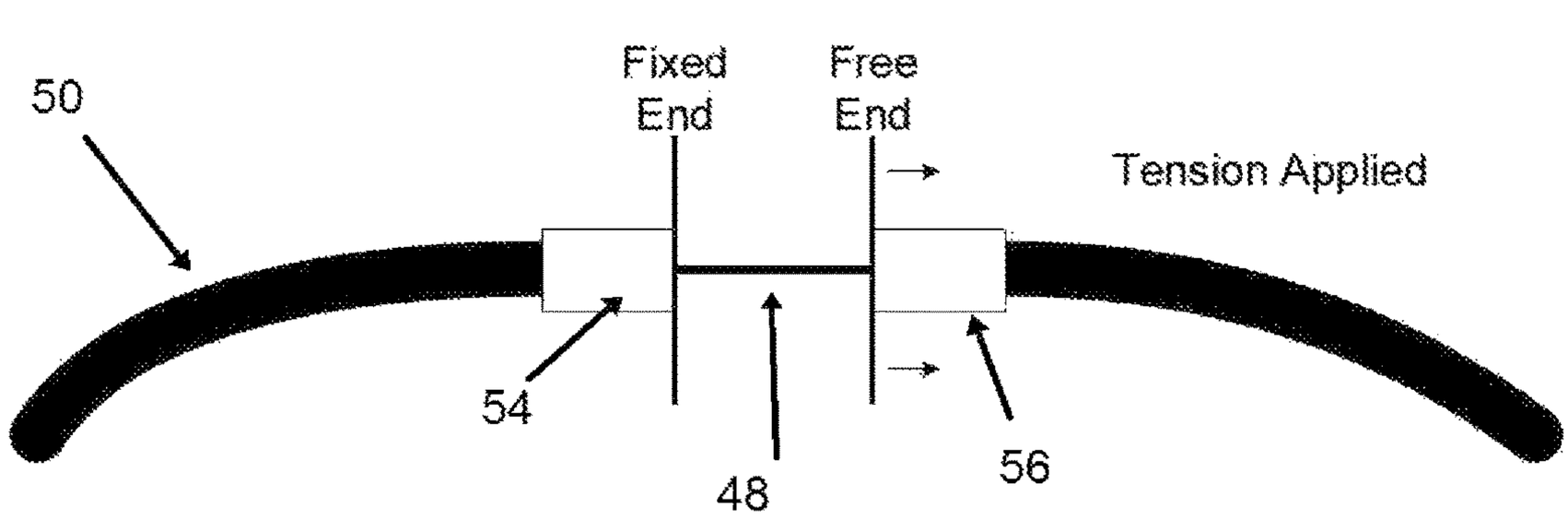

50
Fixed End
Free End
Tension Applied
54
48
56

FIG. 5a

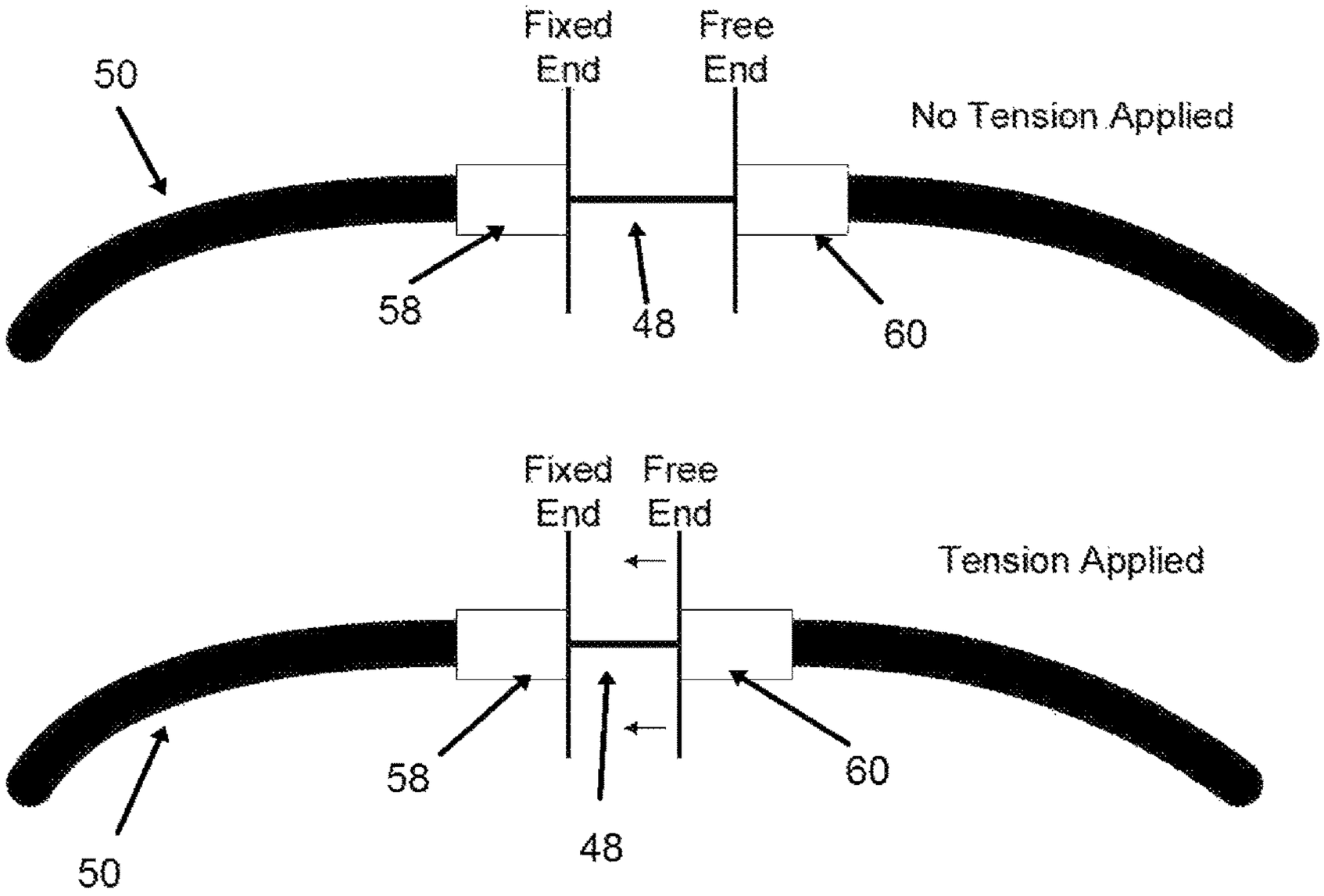

Fixed End
Free End
50
No Tension Applied
58
48
60
Fixed End
Free End
Tension Applied
58
60
50
48

FIG. 5b

MOBILITY ASSISTANCE DEVICE

FIELD OF THE INVENTION

The present invention relates generally to a mobility assistance device that could be used, for example, to provide mobility assistance to individuals living with a debilitating disease, in particular, Parkinson's disease.

BACKGROUND OF THE INVENTION

As many as one million Americans currently live with Parkinson's disease with approximately 60,000 more Americans diagnosed each year, not including thousands more that likely go undetected. Parkinson's disease is often considered to be caused by a deficiency of dopamine in the basal ganglia circuit which leads to motor deficits. Although symptoms of Parkinson's disease are varied, one of the most affected motor characteristics is gait.

Festinating gait (also known as Parkinsonian gait) is characterized by a quickening and shortening of normal strides. Festinating gait can be disruptive for an individual diagnosed with Parkinson's disease and may interfere with the ability to work and engage in daily activities.

One common symptom in the advanced stages of the disease is referred to as Freezing of Gait (FOG). FOG is typically a transient episode that lasts less than a minute. During a FOG episode, gait halts with patients describing the situation as having his/her feet glued to the ground; when the patient overcomes the block, walking normally resumes.

Many Parkinson's patients use some form of wheeled walker (also known as a rolling walker or rollator) for mobility. Wheeled walkers may provide additional needed stability and are available in various configurations which can include: a seat rest, hand brake(s) and optional visual/audio cueing. During a FOG episode, an individual using a walker may encounter a situation where his/her feet are 'glued' to the floor but the walker continues to move forward slowly. The result is embarrassing and potentially dangerous situation in which the wheeled walker gets further and further away from the individual, at best ending up with the individual in a bent over position but helpless to do anything about it, or worse, resulting in a fall.

OBJECTS AND SUMMARY OF THE INVENTION

An object of at least one embodiment of the present invention is to provide an individual using a wheeled walker, a tethered belt to limit the permissible distance the wheeled walker may advance without the individual advancing in the direction of movement. The tether can be used by itself or integrated with a braking system that applies the wheeled walker brakes when necessary.

A wheeled walker with an integrated safety system in accordance with the invention includes a frame, a movement enabling system on the frame that enables the frame to be manually moved along a surface, and a belt/tether apparatus including a belt adapted to be attached to a person using the walker and at least one tether connected at a first end region to the frame and at a second end region to the belt. Such connection of the tether may be a direct connection to the frame or belt or indirect connection through other intermediate or intervening structure.

The belt may be any known structure that functions as a conventional belt, for example, structure configured to be placed around a waist of the person using the walker and

preferably adjustable to enable people with different waist sizes to use the belt. Also, the belt may be configured to have a height to support lumbar vertebrae and sufficient rigidity to maintain natural curvature of the individual's lower back when attached to the person. The belt could also be configured to be placed around other parts of the user. Multiple belts may be used and placed, for example, around different parts of the user.

The movement enabling system typically includes wheels mounted at a lower region of the frame.

Each tether may be elongate and include a buckle component that enables its length to be adjusted. A strap webbing is optionally connected at one end region to the belt and at an opposite end region to the buckle component. As such, the buckle component enables a length of the strap webbing between the belt and the buckle component to be adjusted. When two tethers are provided, a first tether is advantageously arranged on one side of the belt and a second tether is advantageously arranged on an opposite side of the belt.

In another embodiment, one or more tethers each include a buckle having first and second cooperating components that selectively engage with one another and are releasable from engagement with one another. A strap webbing is connected at one end region to the belt and at an opposite end region to the first component. An elastic portion is connected at one end region to the frame and at an opposite end region to the second component. The buckle may be a side release buckle. Optionally, each tether includes an elastic portion between the frame and the second component which provides a proportional tension as distance beyond a slack distance of the elastic portion increases. The elastic portion may be attached at one end region to the frame and at an opposite end region to the second component.

In some embodiments, one or more tethers each include a buckle having first and second cooperating components selectively engaged with one another and releasable from engagement with one another. The first component is configured to break away from the second component when tension in the tether exceeds a threshold tension.

An optional feature is a braking mechanism that interacts with the movement enabling system to prevent movement of the frame when tension on the tether exceeds a threshold, for example, one derived from a distance between the belt and the frame. This braking mechanism can have different forms and in one embodiment, includes an actuatable brake, a wire fixed at one end to the brake and configured such that application of tension to the wire causes actuation of the brake, and a wheel over which the wire passes. The wheel is coupled to the tether and moves in one direction to apply tension to the wire and thereby cause actuation of the brake when tension on the tether exceeds the threshold.

In another embodiment, the braking mechanism includes an actuatable brake, a wire fixed at one end to the brake and configured such that release of tension on the wire causes actuation of the brake, and a wheel over which the wire passes. The wheel is coupled to the tether and configured to move in one direction to release tension on the wire and thereby cause actuation of the brake when tension on the tether exceeds the threshold.

In yet another embodiment, the braking mechanism includes an actuatable brake, and a cable comprising an outer casing and an inner wire. The inner wire is fixed at one end to the brake and configured such that pulling of the inner wire causes actuation of the brake. The outer casing has first and second separate parts, the first part being attached to the frame and the second part being coupled to the tether and configured such that when tension on the tether exceeds the

threshold, the second part of the outer casing moves away from the first part of the outer casing and thereby pulls the inner wire.

In still another embodiment, the braking mechanism includes an actuatable brake, and a cable comprising an outer casing and an inner wire. The inner wire is fixed at one end to the brake and configured such that tension release of the inner wire causes actuation of the brake. The outer casing has first and second separate parts, the first part being attached to the frame and the second part being coupled to the tether and configured such that when tension on the tether exceeds the threshold, the second part of the outer casing moves toward the first part of the outer casing and thereby releases tension of the inner wire.

The invention will be described in detail with reference to some preferred embodiments of the invention illustrated in the figures in the accompanying drawings. However, the invention is not confined to the illustrated and described embodiments alone.

BRIEF DESCRIPTION OF THE DRAWINGS

Additional objects of the invention will be apparent from the following description of the preferred embodiment thereof taken in conjunction with the accompanying non-limiting drawings, in which:

FIG. **1** shows an individual with a safety belt in accordance with the invention tethered to a wheeled walker;

FIG. **2** shows an individual with a safety belt in accordance with the invention tethered to a stabilized wheeled walker;

FIG. **3** depicts an exemplifying construction of the belt/tether in accordance with the invention;

FIGS. **3***a* and **3***b* provide a visual comparison of the profile of a standard side release buckle with that of a break-away style buckle used in the invention;

FIG. **4** reflects an inline brake application method in which an inline braking mechanism is coupled with a belt/tether apparatus in accordance with the invention; and

FIGS. **5***a* and **5***b* illustrate alternate inline brake application methods in which an inline braking mechanism is coupled with a belt/tether apparatus in accordance with the invention.

DETAILED DESCRIPTION OF THE INVENTION

Wheeled walkers have been used for many decades as a way of providing increased mobility to people who find the daily task of walking a challenge. Initially, walkers started out as rigid frames and through incremental improvements over the years, are now foldable and can be equipped with a seat, a basket, wheels, brakes, etc. While these improvements address features that may have been lacking in prior designs, they can also introduce new issues that require remediation. The invention disclosed herein seeks to address one of these issues.

For the sake of clarity, all discussions will be directed to a fully wheeled walker—that is to say any portion of the walker that touches the floor/ground will have some form of fixed/free wheel or caster to allow movement, but the invention is in no way limited to a fully wheeled walker. So, generally, it will be considered that the walker integrating a safety system in accordance with the invention includes a movement enabling system on a frame of the walker that enables the frame to be manually moved by the user along a surface. The movement enabling system may include the wheels or casters at each portion that contacts the surface or only a portion thereof.

FIG. **1** shows a garden variety, conventional walker **10** that is commonly available at the time of this application. This walker **10** includes brakes **12** actuated by a braking mechanism **14** for each hand to better control the movement of the walker **10**. Walker **10** also includes wheels **16** on a lower portion of the frame of the walker **10** (the movement enabling system), a seat **18** attached to the frame and a basket **20** also attached to the frame.

FIG. **2** illustrates a walker **22** that has a lower center of gravity for better stability, and also includes wheels **16** on a lower portion of the frame of the walker **22**, and a seat **18** attached to the frame.

Braking on either style of the walker **10**, **22** can be direct acting (squeeze to apply brake) or deadman style (squeeze to release brake). The deadman style is often considered the preferred type of braking as it permits an individual to use the walker **10**, **22** as a stable form of support when getting up from a sitting position. Regardless of braking type, the invention is capable of being installed as either a retrofit option on an existing walker **10**, **22** or incorporated into the design of a new walker.

FIG. **3** details the construction of a belt/tether apparatus **24** that is used with the wheeled walker **10**, **22** in accordance with the invention. The belt/tether apparatus **24** includes a belt **26** that allows reasonable adjustment for an individual's waist size and a section of strap webbing **28** stitched to either side of the belt **26** (only one side is shown in FIGS. **1-3**). The strap webbing **28** is part of a tether assembly of the belt/tether apparatus **24**. It is possible to provide the belt/tether apparatus **24** with only a single section of strap webbing **28**.

The belt **26** may optionally include provisions for lumbar support as older individuals using walkers sometimes have a tendency to hunch over which can result in complaints of back pain. The lumbar vertebrae are located in the lower part of the spinal column and can cause excruciating lower back pain caused by the conditions sciatica, a slipped disc, facet syndrome, spinal stenosis and degenerative disc disease. These conditions are often brought on or aggravated by weak core muscles or overuse of the back muscles which lead them to become strained. Typically, back support belts are designed to support and improve back posture, thus treating and managing this pain. Lumbar support belts can be adjusted to maintain the natural curve of the lower back and relieve back pain. If optional provisions for lumbar support are included, the belt **26** must be of sufficient height so as to support the lumbar vertebrae and sufficient rigidity so as to maintain the natural curvature of the individual's lower back. Formation of support belts having sufficient height and material construction to achieve lumbar support control is known to those skilled in the art of human spinal physiology.

It is possible to provide two or more belts **26** with the walker **10**, **22** and each may be designed to be placed around a different part of the user.

Each of the strap webbings (also referred as straps) **28** would typically pass through one buckle component **30** of a side release buckle **32** which allows adjustment of the individual's position relative to the wheeled walker **10**, **22** as well as allowing quick attachment/detachment from the walker **10**, **22**. The side release buckle **32** is also considered part of the belt/tether apparatus **24** and more specifically part of the tether assembly thereof. The structure of a side release buckle **32** having two components, the male member or component (hook end) **30**, and female member (catch end)

34 that are selectively engaged with one another and releasable from engagement with one another is known to those skilled in the buckle field, as well as the structure of one of these components to provide adjustability in the length of the strap webbings **28** between the male buckle member or component **30** and the site at which the strap webbing **28** is attached to the belt **26**.

The side release buckle **32** preferably incorporates a 'break-away' design feature to prevent injury in the event the individual using the walker **10**, **22** loses his/her balance and falls backward. Without the break-away design feature, the individual could potentially pull the wheeled walker **10**, **22** backwards on top of him/herself during a backwards fall, causing additional injury. The 'break-away' configured side release buckle **32** would release when subjected to a nominal axial tension of, for example, 20 pounds-force although a variety of tension release points may be necessary based on an individual's size/weight.

In one nonlimiting configuration, in order to achieve the break away capability, the sharp mating edge of the male member or component (hook end) **30** where it engages the female member (catch end) **34** is smoothed to allow the engagement to slip when the desired tension is applied. A break-away version and a typical side release buckle **32** are shown in FIGS. **3***a* and **3***b*, respectively. Each of FIGS. **3***a* and **3***b* shows an exaggerated view of this mating edge; instead of providing a firm engagement between the buckle members, the softened edges allow slippage (break-away) when a pre-defined tension is reached. In a preferred embodiment, the 'break-away' tension release point could be adjustable thus preventing the need for multiple buckles.

The female buckle member **34** is attached to a short loop (for example, less than about 12" total length) of an elongate portion of braided elastic **36** to provide an increasing (proportional) amount of tension as the distance between the individual **8** and wheeled walker **10**, **22** increases. The elastic portion **36** is also part of the belt/tether apparatus **24** and more specifically, part of the tether assembly thereof. The elastic portion **36** generally provides a proportional tension as distance beyond a slack distance of the elastic portion **36** increases. Formation of braided elastic to achieve this tension control is known to those skilled in the art of elastic components.

Attachment of the looped elastic portion **36** to the walker **10**, **22** can be via direct connection to the wheeled walker structure or frame **38** at a point slightly lower than the individual's waist using a B.D. ring connected to opposite sides of the short loop of braided elastic portion **36** (FIGS. **1** and **3**). In FIG. **2**, the looped elastic portion **36** is attached to a vertically extending frame portion **40** of the wheeled walker structure **38**. Instead of a looped elastic portion **36**, other elastic components may be used that provide increasing tension as a function of stretching.

In alternate embodiments, the short braided loop of elastic portion **36** can be tied into the braking mechanism **14** of the wheeled walker **10**, **22**. Instead of a direct connection to the wheeled walker structure **38**, **40**, the short braided loop of elastic portion **36** could connect to an inline braking mechanism **44** that is also capable of applying the brakes **12** when tension from the belt/tether apparatus **24** is exerted.

FIG. **4** schematically shows an inline braking mechanism **44** which is one such way of applying the brakes **12** when there is tension on the tether of the belt/tether apparatus **24**. Generally, this entails integrating the inline braking mechanism **44** with the tether of the belt/tether apparatus **24** to effect action of the braking mechanism as a function of the tension in the tether. Structure other than disclosed above that can actuate a braking mechanism as a function of tension of a tether of a belt/tether apparatus **24** that is attached to a person and to a frame of the walker may also be used in the invention without deviating from the scope and spirit thereof.

A typical brake cable **46** (also known as a Bowden cable) consists of an inner stranded brake wire **48** surrounded by an outer casing **50**. The inline braking mechanism **44** shown in FIG. **4** would preferably be installed at a location on the wheeled walker structure **38**, **40** slightly lower than the individual's waist where there is access to the brake cable(s) **46**. The outer casing **50** of the brake cable **46** would be cut/truncated with the mechanism **44** inserted at the cut point. The inner wire **48** would pass over a wheel **52** which is restricted to move orthogonally from the plane of the wire's entry/exit. For direct acting style of brakes, the wheel **52** would be pulled further outward, increasing the length of the inner wire **48** and thus applying brake pressure when tension is exerted by the belt/tether apparatus **24** (the direction of arrow A). Tension on the belt/tether apparatus **24**, and more specifically, on the tether above a threshold thereby causes movement of the wheel **52** which is coupled thereto and this movement of the wheel **52** in the direction of arrow A causes the actuation of the brakes **12**. Actuation of the brakes **12** could otherwise occur when the user pulls the braking mechanism **14** to which an end region of the inner wire **48** is attached or fixed.

The deadman style of brakes operate in the opposite manner; releasing cable tension in the brake cable **46** applies the brakes **12**. For deadman style of brakes, the wheel **52** would be pulled further inward decreasing the length of the inner wire **48** and thus releasing cable tension/applying brake pressure when tension is exerted by the tether of the belt/tether apparatus **24** (the direction of arrow B). In this embodiment, the same mechanism **44** could be used for either style of wheeled walker braking.

FIG. **5***a* (direct acting brake) and FIG. **5***b* (deadman brake) reflect yet other more cost effective embodiments to integrating the tether of the belt/tether apparatus **24** into the wheeled walker's braking. In FIG. **5***a* (direct acting brake), the outer casing **50** of the brake cable **46** would be cut and one end region **54** attached (fixed) to the wheeled walker structure **38**, **40**. The other, free end region **56** would be pulled axially away from the fixed end region **54** when tension is exerted by the belt/tether apparatus **24**, the lower illustration. Increasing the distance of separation between the two end regions **54**, **56** of the outer casing **50** has the same effect of pulling the inner brake wire **48** (effectively shortening the length of the inner wire **48** relative to the outer casing **50**).

In FIG. **5***b* (deadman brake), the outer casing **50** of the brake cable **46** would be would be cut and one end region **58** attached (fixed) to the wheeled walker structure **38**, **40**. The other, free end region **60** would be pulled axially toward the fixed end region **58** when tension is exerted by the belt/tether apparatus **24**, the lower illustration. Decreasing the distance of separation of the end region **58**, **60** of the outer casing **50** has the same effect of relaxing the inner brake wire **48** (effectively lengthening the length of the inner wire **48** relative to the outer casing **50**).

In both braking styles, the tension resulting from the distance between the individual and the wheeled walker **10**, **22** would apply the brakes **12** of the wheeled walker **10**, **22** when it exceeds a comfortable distance range for the individual. This distance would be adjusted by the slack length of the strap webbing **28** stitched to either side of the belt/tether apparatus **24** and the side release buckle **32**.

As an example of use, if the individual using the walker **10**, **22** remains stationary while experiencing a FOG episode yet the wheeled walker **10**, **22** continues to move forward, then the distance between the individual and the wheeled walker **10**, **22** increases. If this distance exceeds a safe distance (readily ascertainable by those skilled in the field of managing patients subject to FOG episodes), then the individual will fall down. To prevent this, the safe distance is determined, i.e., the maximum distance between the individual in a stable, upright position and the wheeled walker **10**, **22** is determined, e.g., through experimentation for each style of walker **10**, **22**. Then, the tether of the belt/tether apparatus **24** would be designed to allow for distancing of the walker **10**, **22** from the individual up to the maximum safe distance, i.e., allow to be stretched in tension below a tension threshold for this distance, which threshold may be predetermined during design of the walker. Upon the distance between the walker **10**, **22** and the individual approaching within a threshold of or being this distance, the tension in the tether of the belt/tether apparatus **24** would then exceed the predetermined threshold and cause braking action via the braking mechanism **42**. Forward movement of the walker **10**, **22** would stop and thereby keep the distance between the walker **10**, **22** and the individual at or within the safe distance.

For any of the inline braking methods disclosed, the short braided elastic loop portion **36** could attach to the inline braking mechanism **44** using a bolt-snap hook, overlapping arm snap, carabiner style spring link or similar sturdy quick connect/disconnect in lieu of the B.D. ring used as part of the direct connection to the wheeled walker structure.

Many wheeled walkers incorporate a fold down (or similar) seat to allow an individual to rest should walking become too strenuous. It is envisioned that the folding down action of the seat could also tie into or be integrated with or into the in-line braking system. When the seat is in use, i.e., in a down state, the brakes should be applied for two reasons. When the individual is sitting on the seat, the wheeled walker should remain in a fixed position to prevent a fall due to the walker rolling away from an individual. Individuals who utilize home health aides for mobility assistance may tend to use the walker as a wheelchair. Since these seats are provided mainly for resting purposes, their use for wheeling an individual around akin to a wheelchair results in undue stresses and strains which could potentially damage the walker. While the structure could be changed, the resulting bulkiness and weight would detract more than the value added. Tying the fold down seat into the in-line braking system would prevent the walker from being used as a wheelchair averting potential damage.

In another alternate embodiment, the inline braking system could incorporate a shutter mechanism within the attachment that keeps the wheeled walker brakes **12** applied until the individual using the walker **10**, **22** makes the physical connection of the belt/tether apparatus **24**, as an added safety measure. For new wheeled walker designs, the attachment point and inline braking mechanism **42** could be incorporated into the brake handles to reduce parts count and manufacturing steps to ultimately reduce cost. The combined attachment point, inline braking mechanism and brake handle assembly could also be used in retrofit applications for existing wheeled walkers, but due to the multitude of configurations available to the consumer, this type of retrofit option may not result in optimal attachment location and may require a large inventory of different designs to accommodate all variants.

Having thus described a few particular embodiments of the invention, various alterations, modifications, and improvements will readily occur to those skilled in the art. Such alterations, modifications and improvements as are made obvious by this disclosure are intended to be part of this description though not expressly stated herein, and are intended to be within the spirit and scope of the invention. Accordingly, the foregoing description is by way of example only, and is not limiting. The invention is limited only as defined in the claims and equivalents thereto.

The invention claimed is:

1. A wheeled walker with an integrated safety system, comprising:

a frame;

a movement enabling system on said frame that enables said frame to be moved along a surface; and

a belt/tether apparatus including

a belt adapted to be attached to a person using the walker; and

at least one elongate tether connected at a first end region to said frame and at a second end region to said belt,

each of said at least one elongate tether including

a buckle having first and second cooperating components that are selectively engaged with one another and releasable from engagement with one another,

a strap webbing connected at one end region to said belt and at an opposite end region to said first component, and

an elastic portion between said frame and said second component and connected at one end region to said frame and at an opposite end region to said second component,

whereby said elastic portion provides a proportional tension as distance beyond a slack distance of said elastic portion increases.

2. The walker of claim **1**, wherein said first component enables a length of said strap webbing between said belt and said first component, and thus a length of said at least one elongate tether, to be adjusted.

3. The walker of claim **1**, wherein said at least one elongate tether comprises a first elongate tether arranged on one side of said belt and a second elongate tether arranged on an opposite side of said belt.

4. The walker of claim **1**, wherein said buckle is a side release buckle.

5. The walker of claim **1**, wherein said elastic portion is attached at said one end region directly to said frame and attached at said opposite end region directly to said second component.

6. The walker of claim **1**, wherein said first component is configured to break away from said second component when tension in said at least one elongate tether exceeds a threshold tension.

7. The walker of claim **1**, further comprising a braking mechanism configured to interact with said movement enabling system to prevent movement of said frame when tension on said at least one elongate tether exceeds a threshold derived from a distance between said belt and said frame.

8. The walker of claim **7**, wherein said braking mechanism comprises:

an actuatable brake;

a wire fixed at one end to said brake and configured such that application of tension to said wire causes actuation of said brake; and

a wheel over which said wire passes, said wheel being coupled to said at least one elongate tether and configured to move in one direction to apply tension to said wire and thereby cause actuation of said brake when tension on said at least one elongate tether exceeds the threshold.

9. The walker of claim **7**, wherein said braking mechanism comprises:

an actuatable brake;

a wire fixed at one end to said brake and configured such that release of tension on said wire causes actuation of said brake;

a wheel over which said wire passes, said wheel being coupled to said at least one elongate tether and configured to move in one direction to release tension on said wire and thereby cause actuation of said brake when tension on said at least one elongate tether exceeds the threshold.

10. The walker of claim **7**, wherein said braking mechanism comprises:

an actuatable brake; and

a cable comprising an outer casing and an inner wire,

said inner wire being fixed at one end to said brake and configured such that pulling of said inner wire causes actuation of said brake,

said outer casing having first and second separate parts, said first part being attached to said frame and said second part being coupled to said at least one elongate tether and configured such that when tension on said at least one elongate tether exceeds the threshold, said second part of said outer casing moves away from said first part of said outer casing and thereby pulls said inner wire.

11. The walker of claim **7**, wherein said braking mechanism comprises:

an actuatable brake; and

a cable comprising an outer casing and an inner wire,

said inner wire being fixed at one end to said brake and configured such that tension release of said inner wire causes actuation of said brake,

said outer casing having first and second separate parts, said first part being attached to said frame and said second part being coupled to said at least one elongate tether and configured such that when tension on said at least one elongate tether exceeds the threshold, said second part of said outer casing moves toward said first part of said outer casing and thereby releases tension of said inner wire.

12. The walker of claim **1**, wherein said movement enabling system comprises a plurality of wheels mounted at a lower region of said frame.

13. The walker of claim **1**, wherein said belt is configured to be placed around a waist of the person using the walker and adjustable to enable people with different waist sizes to use said belt.

14. The walker of claim **1**, wherein said belt is configured to have a height to support lumbar vertebrae and sufficient rigidity to maintain natural curvature of the individual's lower back when said belt is attached to the person.

15. A wheeled walker with an integrated safety system, comprising:

a frame;

a movement enabling system on said frame that enables said frame to be moved along a surface; and

a belt/tether apparatus including

a belt adapted to be attached to a person using the walker, and

at least one tether connected at a first end region to said frame and at a second end region to said belt,

said at least one tether including a buckle having first and second cooperating components that are selectively engaged with one another and releasable from engagement with one another,

said first component being configured to break away from said second component when tension in said at least one tether exceeds a threshold tension.

16. The walker of claim **15**, wherein said buckle is a side release buckle.

17. The walker of claim **15**, wherein said belt is configured to be placed around a waist of the person using the walker and adjustable to enable people with different waist sizes to use said belt.

18. A wheeled walker with an integrated safety system, comprising:

a frame;

a movement enabling system on said frame that enables said frame to be moved along a surface; and

a belt/tether apparatus including

a belt adapted to be attached to a person using the walker, and

at least one tether connected at a first end region to said frame and at a second end region to said belt; and

a braking mechanism configured to interact with said movement enabling system to prevent movement of said frame when tension on said at least one tether exceeds a threshold derived from a distance between said belt and said frame.

19. The walker of claim **18**, wherein said braking mechanism comprises:

an actuatable brake;

a wire fixed at one end to said brake and configured such that application of tension to said wire causes actuation of said brake; and

a wheel over which said wire passes, said wheel being coupled to said at least one tether and configured to move in one direction to apply tension to said wire and thereby cause actuation of said brake when tension on said at least one tether exceeds the threshold.

20. The walker of claim **18**, wherein said braking mechanism comprises:

an actuatable brake;

a wire fixed at one end to said brake and configured such that release of tension on said wire causes actuation of said brake;

a wheel over which said wire passes, said wheel being coupled to said at least one tether and configured to move in one direction to release tension on said wire and thereby cause actuation of said brake when tension on said at least one tether exceeds the threshold.

21. The walker of claim **18**, wherein said braking mechanism comprises:

an actuatable brake; and

a cable comprising an outer casing and an inner wire,

said inner wire being fixed at one end to said brake and configured such that pulling of said inner wire causes actuation of said brake,

said outer casing having first and second separate parts, said first part being attached to said frame and said second part being coupled to said at least one tether and configured such that when tension on said at least one tether exceeds the threshold, said second part of said outer casing moves away from said first part of said outer casing and thereby pulls said inner wire.

22. The walker of claim 18, wherein said braking mechanism comprises:

an actuatable brake; and

a cable comprising an outer casing and an inner wire,

said inner wire being fixed at one end to said brake and configured such that tension release of said inner wire causes actuation of said brake,

said outer casing having first and second separate parts, said first part being attached to said frame and said second part being coupled to said at least one tether and configured such that when tension on said at least one tether exceeds the threshold, said second part of said outer casing moves toward said first part of said outer casing and thereby releases tension of said inner wire.

23. The walker of claim 18, wherein said at least one tether is elongate and includes a side release buckle having first and second cooperating components that are selectively engaged with one another and releasable from engagement with one another, a strap webbing connected at one end region to said belt and at an opposite end region to said first component, and an elastic portion connected at one end region to said frame and at an opposite end region to said second component.

24. The walker of claim 18, wherein said at least one tether includes a buckle having first and second cooperating components that are selectively engaged with one another and releasable from engagement with one another, said first component being configured to break away from said second component when tension in said at least one tether exceeds a threshold tension.

25. The walker of claim 18, wherein said belt is configured to be placed around a waist of the person using the walker and adjustable to enable people with different waist sizes to use said belt.

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